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Attorney/Agent: Kerri Pollard Schray
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```
   1  ggccggacag  tccgccgagg  tgctcggtgg  agtcatggca  gtgccctttg  tggaagactg
  61  ggacttggtg  caaaccctgg  gagaaggtgc  ctatggagaa  gttcaacttg  ctgtgaatag
 121  agtaactgaa  gaagcagtcg  cagtgaagat  tgtagatatg  aagcgtgccg  tagactgtcc
 181  agaaaatatt  aagaaagaga  tctgtatcaa  taaaatgcta  aatcatgaaa  atgtagtaaa
 241  attctatggt  cacaggagag  aaggcaatat  ccaatattta  tttctggagt  actgtagtgg
 301  aggagagctt  tttgacagaa  tagagccaga  cataggcatg  cctgaaccag  atgctcagag
 361  attcttccat  caactccatg  gtgctgttta  ttatctgcat  ggtattggaa  taactcacag
 421  ggatattaaa  ccagaaaatc  ttctgttgga  tgaaagggat  aacctcaaaa  tctcagactt
 481  tggcttggca  acagtatttc  ggtataataa  tcgtgagcgt  ttgttgaaca  agatgtgtgg
 541  tactttacca  tatgttgctc  cagaacttct  gaagagaaga  gaatttcatg  cagaaccagt
 601  tgatgtttgg  tcctgtggaa  tagtacttac  gtcaatgctc  gctggagaat  tgccatggga
 661  ccaacccagt  gacagctgtc  aggagtattc  aggagtattc  gaaaaaaaaa  catacctcaa
 721  cccttggaaa  aaaatcgatt  ctgctcctct  agctctgctg  cataaaatct  tagttgagaa
 781  tccatcagca  agaattacca  ttccagacat  caaaaaagat  agatggtaca  acaaacccct
 841  caagaaaggg  gcaaaaaggc  cccgagtcac  ttcaggtggt  gtgtcagagt  ctcccagtgg
 901  attttctaag  cacattcaat  ccaatttgga  cttctctcca  gtaaacagtg  cttctagtga
 961  agaaaatgtg  aagtactcca  gttctcagcc  agaaccccgc  acaggtcttt  ccttatggga
1021  taccagcccc  tcatacattg  ataaattggt  acaagggatc  agctttttcc  agcccacatg
1081  tcctgatcat  atgctttttga  atagtcagtt  acttggcacc  ccaggatcct  cacagaaccc
1141  ctggcagcgg  ttggtcaaaa  gaatgacacg  attcttttacc  aaattggatg  cagacaaatc
1201  ttatcaatgc  ctgaaagaga  cttgtgagaa  gttgggctat  caatggaaga  aagttgtat
1261  gaatcaggtt  actatatcaa  caactgatag  gagaaacaat  aaactcattt  tcaaagtgaa
1321  tttgttagaa  atggatgata  aaatattggt  tgacttccgg  cttctaagg  gtgatgatt
1381  ggagttcaag  agacacttcc  tgaagattaa  agggaagctg  attgatattg  tgagcagcca
1441  gaaggtttgg  cttcctgcca  ccatcggcga  ccatcggctc  tggggaatcc  tggtgaatat
1501  agtgctgcta  tgttgacatt  attcttccta  gagagatta  tcctgtcctg  caaactgcaa
1561  atagtagttc  ctgaagtgtt  cacttccctg  tttatccaaa  catcttccaa  tttattttgt
1621  ttgttcggca  tacaaataat  acctatatct  taattgtaag  caaaactttg  gggaaaggat
1681  gaatagaatt  catttgatta  tttcttcatg  tgtgtttagt  atctgaattt  gaaactcatc
1741  tggtggaaac  caagtttcag  gggacatgag  ttttccagct  tttatacaca  cgtatctcat
1801  tttatcaaa  acattttgtt  t
```

FIG. 1

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MAVPFVEDWDLVQTLGEGAYGEVQLAVNRVTEEAVAVKIVDMKR
AVDCPENIKKEICINKMLNHENVVKFYGHRREGNIQYLFLEYCS
GGELFDRIEPDIGMPEPDAQRFFHQLMAGVVYLHGIGITHRDIK
PENLLLDERDNLKISDFGLATVFRYNNRERLLNKMCGTLPYVAP
ELLKRREFHAEPVDVWSCGIVLTAMLAGELPWDQPSDSCQEYSD
WKEKKTYLNPWKKIDSAPLALLHKILVENPSARITIPDIKKDRW
YNKPLKKGAKRPRVTSGGVSESPSGFSKHIQSNLDFSPVNSASS
EENVKYSSSQPEPRTGLSLWDTSPSYIDKLVQGISFSQPTCPDH
MLLNSQLLGTPGSSQNPWQRLVKRMTRFFTKLDADKSYQCLKET
CEKLGYQWKKSCMNQVTISTTDRRNNKLIFKVNLLEMDDKILVD
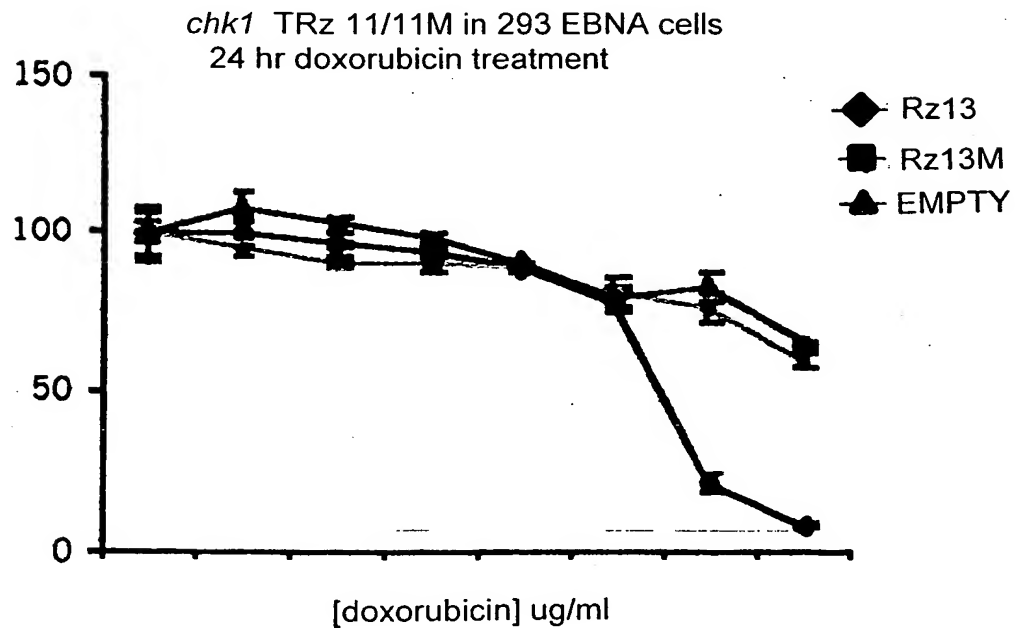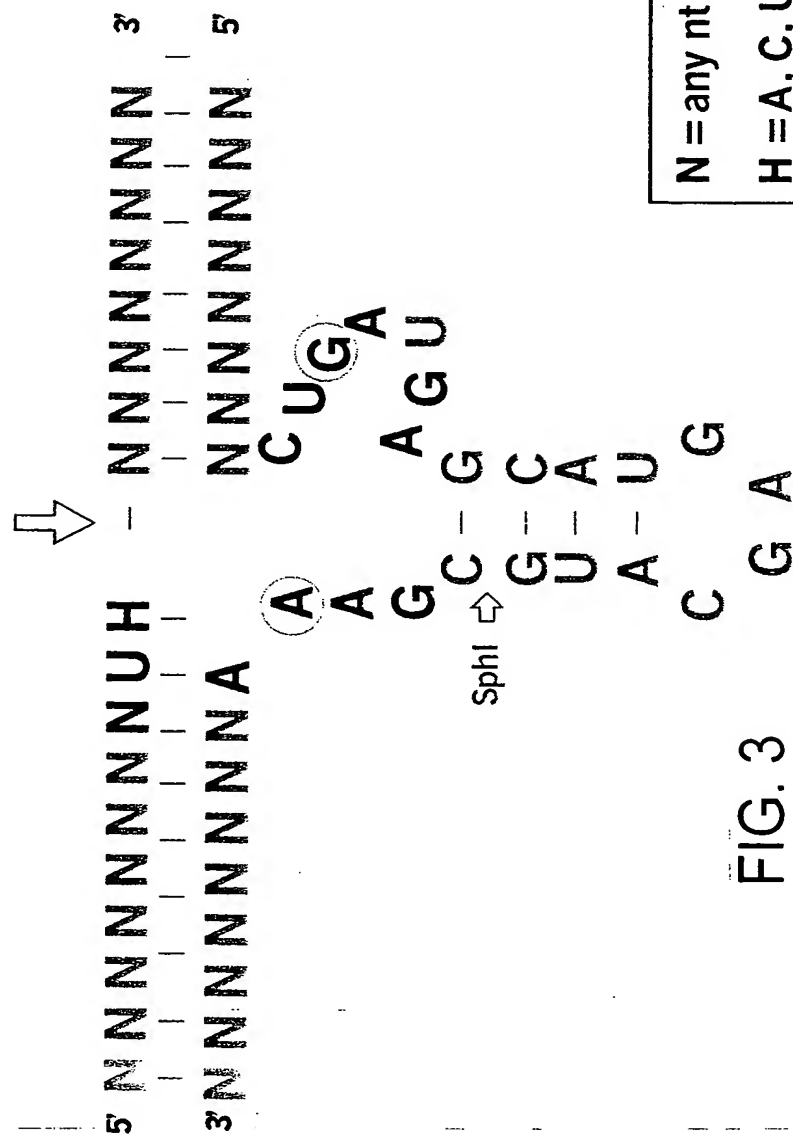FRLSKGDGLEFKRHFLKIKGKLIDIVSSQKVWLPAT

FIG. 2

chk1 TRz 11/11M in 293 EBNA cells
24 hr doxorubicin treatment

Rz13
Rz13M
EMPTY

[doxorubicin] ug/ml

FIG. 5

Hammerhead Ribozyme

```
                                                           3'
5' N N N N N N U H  ⇨  N N N N N N N N
3' N N N N N N A       N N N N N N N N
              Ⓐ      C U Ⓖ A              5'
              A          A G U
            G           A
          G — C        G
 SphI ⇨   G — C
          U — A
          A — U
          C    G
             G   A
```

FIG. 3

N = any nt
H = A, C, U

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FIG. 4A

FIG. 4B

FIG. 4

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Computational prediction of *chk1* RNA secondary structure

x = A UU
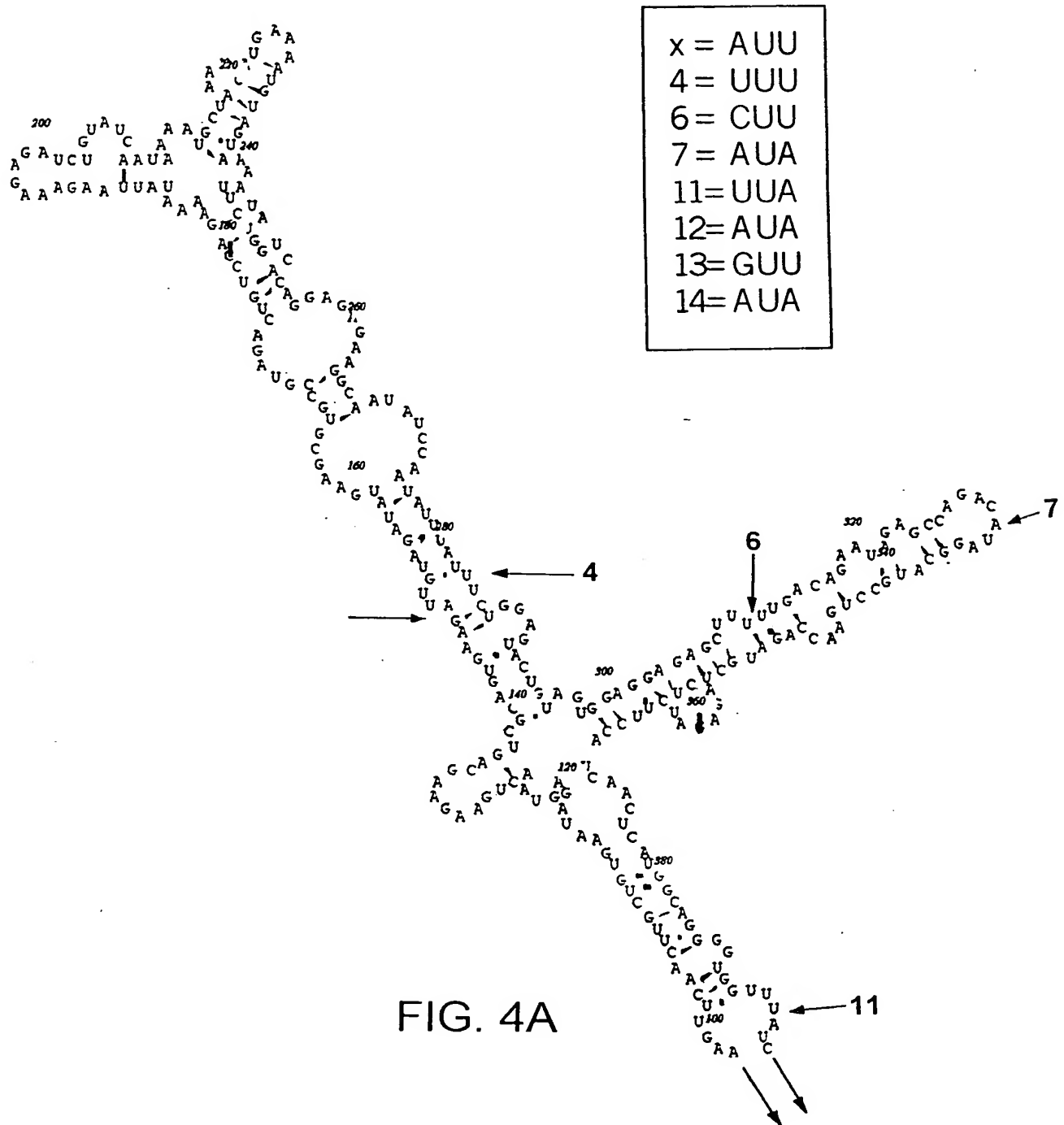4 = UUU
6 = CUU
7 = AUA
11 = UUA
12 = AUA
13 = GUU
14 = AUA

FIG. 4A

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FIG. 4B